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PROFESSIONAL HISTORY AND EDUCATION

- 2018- *Cooperative Institute for Research in Environmental Sciences, University of Colorado Boulder and NOAA Chemical Sciences Laboratory*
▪ Research Scientist I
▪ Improving the representation of shallow clouds in E3SM
▪ Emulation of microphysical processes
- 2012-2018 *Department of Meteorology and Atmospheric Science, The Pennsylvania State University*
▪ Graduate Research/Teaching Assistant
▪ Ph.D. in Atmospheric Sciences (2018)
- 2008-2012 *Department of Marine, Earth, and Atmospheric Sciences, North Carolina State University*
▪ Graduate Research/Teaching Assistant
▪ M.S. in Atmospheric Sciences (2012)
- 2004-2007 *Department of Environmental Science and Engineering, Tsinghua University, China*
▪ Undergraduate and Graduate Research Assistant
▪ B.S. in Environmental Engineering (2005)
▪ M.S. in Environmental Engineering (2008)

SELECTED PUBLICATIONS

Bogenschutz, P. A., Tang, S., Caldwell, P. M., Xie, S., Lin, W., and **Chen, Y.-S.** (2020), The E3SM version 1 single-column model. *Geoscientific Model Development*, 13, 4443–4458, <https://doi.org/10.5194/gmd-13-4443-2020>.

Chen, Y.-S., Jerry Y. Harrington, Johannes Verlinde, Fuqing Zhang, Mariko Oue (2020), Dynamical response of an Arctic mixed-phase cloud to ice precipitation and downwelling longwave radiation from an upper-level cloud. *Journal of Geophysical Research: Atmospheres*, 125, e2019JD031089, <https://doi.org/10.1029/2019JD031089>.

Schrom, R. S., Lier-Walqui, M. v., Kumjian, M. R., Harrington, J. Y., Jensen, A. A., and **Chen, Y.** (2020), Radar-based Bayesian estimation of ice crystal growth parameters within a microphysical model, *Journal of the Atmospheric Sciences*, <https://doi.org/10.1175/JAS-D-20-0134.1>.

Simpfendorfer, L. F., J. Verlinde, J. Y. Harrington, M. D. Shupe, **Y.-S. Chen**, E. E. Clothiaux, and J.-C. Golaz (2019). Formation of Arctic stratocumuli through atmospheric radiative cooling. *Journal of Geophysical Research: Atmospheres*, 124, doi:10.1029/2018JD030189.

Israel Silber, Ann M. Fridlind, Johannes Verlinde, Andrew S. Ackerman, **Yao-Sheng Chen**, David H. Bromwich, Sheng-Hung Wang, Maria Cadeddu, Edwin W. Eloranta (2019). Persistent Supercooled Drizzle at Temperatures below -25°C Observed at McMurdo Station, Antarctica. *Journal of Geophysical Research: Atmospheres*, 124, doi.org/10.1029/2019JD030882.

Chen, Y.-S., J. Verlinde, E. E. Clothiaux, A. S. Ackerman, A. M. Fridlind, M. Chamecki, P. Kollas, M. P. Kirkpatrick, B.-C. Chen, G. Yu, and A. Avramov (2018). On the forward modeling of radar Doppler spectrum width from LES: Implications for model evaluation. *Journal of Geophysical Research: Atmospheres*, 123, doi:10.1029/2017JD028104.

Wang, Y., B. Geerts, and **Y. Chen** (2016), Vertical structure of boundary layer convection during cold-air outbreaks at Barrow, Alaska, *J. Geophys. Res. Atmos.*, *121*, 399-412, doi:10.1002/2015JD023506.

Yu, G., J. Verlinde, E. E. Clothiaux, and **Y.-S. Chen** (2014), Mixed-phase cloud phase partitioning using millimeter wavelength cloud radar Doppler velocity spectra, *J. Geophys. Res. Atmos.*, *119*, 7556–7576, doi:10.1002/2013JD021182.

RECENT CONFERENCE PRESENTATIONS

Chen, Y.-S., T. Yamaguchi, P. A. Bogenschutz, and G. Feingold (2019), Single-column modeling of shallow clouds for the development of the adaptive vertical grid for E3SM-FIVE, poster presentation at 2019 AGU Fall Meeting, December 9-13, 2019, San Francisco, CA.

Chen, Y.-S., T. Yamaguchi, P. A. Bogenschutz, and G. Feingold (2018), Single column modeling of shallow clouds for the development of the adaptive vertical grid in E3SM-FIVE, poster presentation at 2018 AGU Fall Meeting, December 10-14, 2018, Washington, D.C.

Chen, Y.-S., R. Yoshida, P. A. Bogenschutz, D. F. Martin, G. Feingold, H.-H. Lee, P. O. Schwartz, and T. Yamaguchi (2018), Progress and Plan of Implementation of Framework for Improvement by Vertical Enhancement Coupled with Adaptive Vertical Grid into E3SM, poster presentation at the 2018 Earth and Environmental System Modeling (EESM) Principal Investigator's (PI) Meeting, November 5-9, 2018, Potomac, MD.

RECENT CONTRIBUTED PRESENTATIONS

Yamaguchi, T., R. Yoshida, P. A. Bogenschutz, H.-H. Lee, **Y.-S. Chen**, and G. Feingold (2019), Ameliorating low cloud representation in km-scale global and regional models using the Framework for Improvement by Vertical Enhancement, Latsis Symposium 2019 High-resolution climate modeling: Perspectives and challenges, August 21-23, 2019, Zurich, Switzerland.

Yamaguchi, T., P. A. Bogenschutz, G. Feingold, D. F. Martin, **Y.-S. Chen**, H.-H. Lee, P. Schwartz, and R. Yoshida, (2019), Progress toward adaptive vertical grid enhancement in E3SM, oral presentation at 2019 Scientific Discovery through Advanced Computing (SciDAC-4) Principal Investigator Meeting, July 16-18, 2019, Rockville, MD.

Yamaguchi, T., P. A. Bogenschutz, G. Feingold, D. F. Martin, **Y.-S. Chen**, H.-H. Lee, P. Schwartz, and R. Yoshida, (2019), Progress toward adaptive vertical grid enhancement in E3SM, poster presentation at 2019 Scientific Discovery through Advanced Computing (SciDAC-4) Principal Investigator Meeting, July 16-18, 2019, Rockville, MD.

Silber, I., A. Fridlind, J. Verlinde, A. Ackerman, **Y.-S. Chen**, S.-H. Wang, D. Bromwich, M. Cadeddu, E. Eloranta (2019), Highly supercooled drizzling stratus over Antarctica: a good test for climate models? Oral presentation at the 2019 Joint Atmospheric Radiation Measurement (ARM) User Facility and Atmospheric System Research (ASR) PI Meeting, June 10-14, 2019, Rockville, MD.

Yamaguchi, T., P. A. Bogenschutz, **Y.-S. Chen**, R. Yoshida, G. Feingold, D. F. Martin, H.-H. Lee, P. Schwartz (2018), Alleviating the low cloud problem in climate and weather forecast models by adaptive vertical grid enhancement, oral presentation at 2018 AGU Fall Meeting, December 10-14, 2018, Washington, D.C.

Yamaguchi, T., P. A. Bogenschutz, G. Feingold, D. F. Martin, **Y.-S. Chen**, H.-H. Lee, P. Schwartz, R. Yoshida (2018), Improving clouds in E3SM by framework for improvement by vertical enhancement coupled with adaptive vertical grid enhancement, oral presentation at the 2018 Earth and Environmental System Modeling (EESM) Principal Investigator's (PI) Meeting, November 5-9, 2018, Potomac, MD.